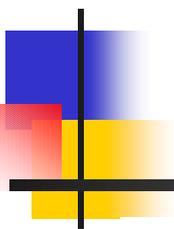
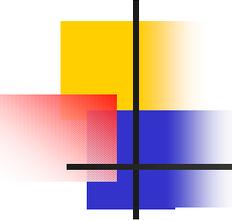


A Dynamic Safety Rating Program for Child Restraint Systems and Review of Comments



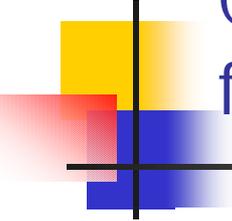
May 15, 2002

Government-Industry Meeting



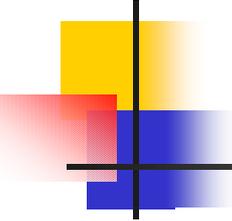
What Did Congress Say?

- Section 14(b)(9) “whether to include child restraint in each vehicle crash tested under the New Car Assessment Program.”
- Section 14(g) “No later than 12 months after the date this law is passed, (which was November 1, 2000) . . . issue a notice of proposed rulemaking [sic] to establish a child restraint safety rating consumer information program”



Public comments suggested NHTSA develop a CRS rating system based on one of the following options:

- FMVSS No. 213 compliance tests
- Higher-speed sled tests
- Full-scale, in-vehicle testing with CRS

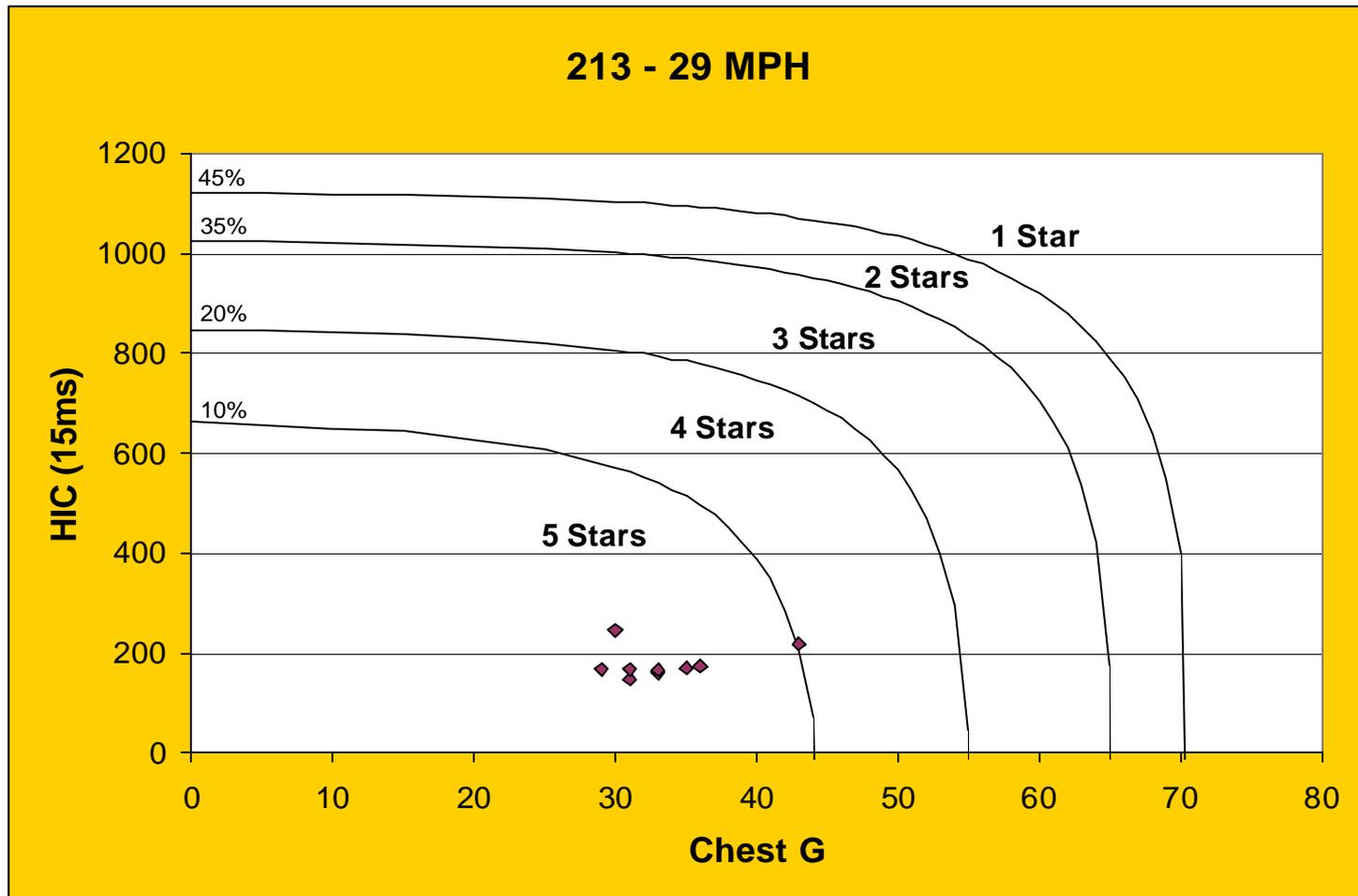


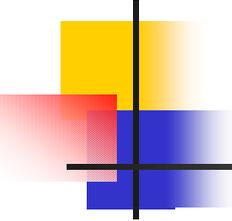
FMVSS No. 213 Sled Testing (30 mph)

- Data examined:

- Nine CRSs tested according to FMVSS No. 213 testing procedure except:
 - Hybrid-III dummy used instead of Hybrid-II
 - All seats tested w/ lap, shoulder, and tether belts
 - One seat tested w/ LATCH

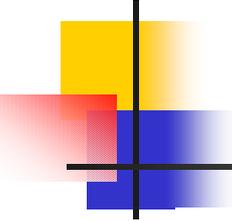
“213” Test Using Hybrid III with Scaled NCAP Curves





FMVSS No. 213 Sled Testing Cont.

- What we showed:
 - Nine sled tests using Hybrid-III dummy show clustered data indicating all child restraints perform similarly at 30 mph.
 - All CRSs pass the 208 head and chest injury criterion with large margin.
 - NCAP 5-star rating system scaled for the 3-year-old dummy. All CRSs we tested received 5 stars.

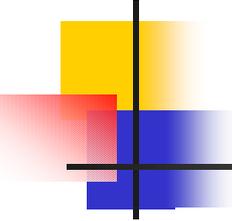


Higher-Speed Sled Testing (35 mph)

- Data examined:
 - Results of sled tests – The same 9 CRSs that were tested at 30 mph (as in a 213 sled test) were also tested at 35 mph. The same testing procedure was used.

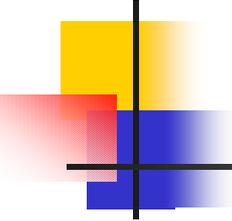
Higher-Speed Sled and Hybrid III with Scaled NCAP Curves





Higher-Speed Sled Testing Cont.

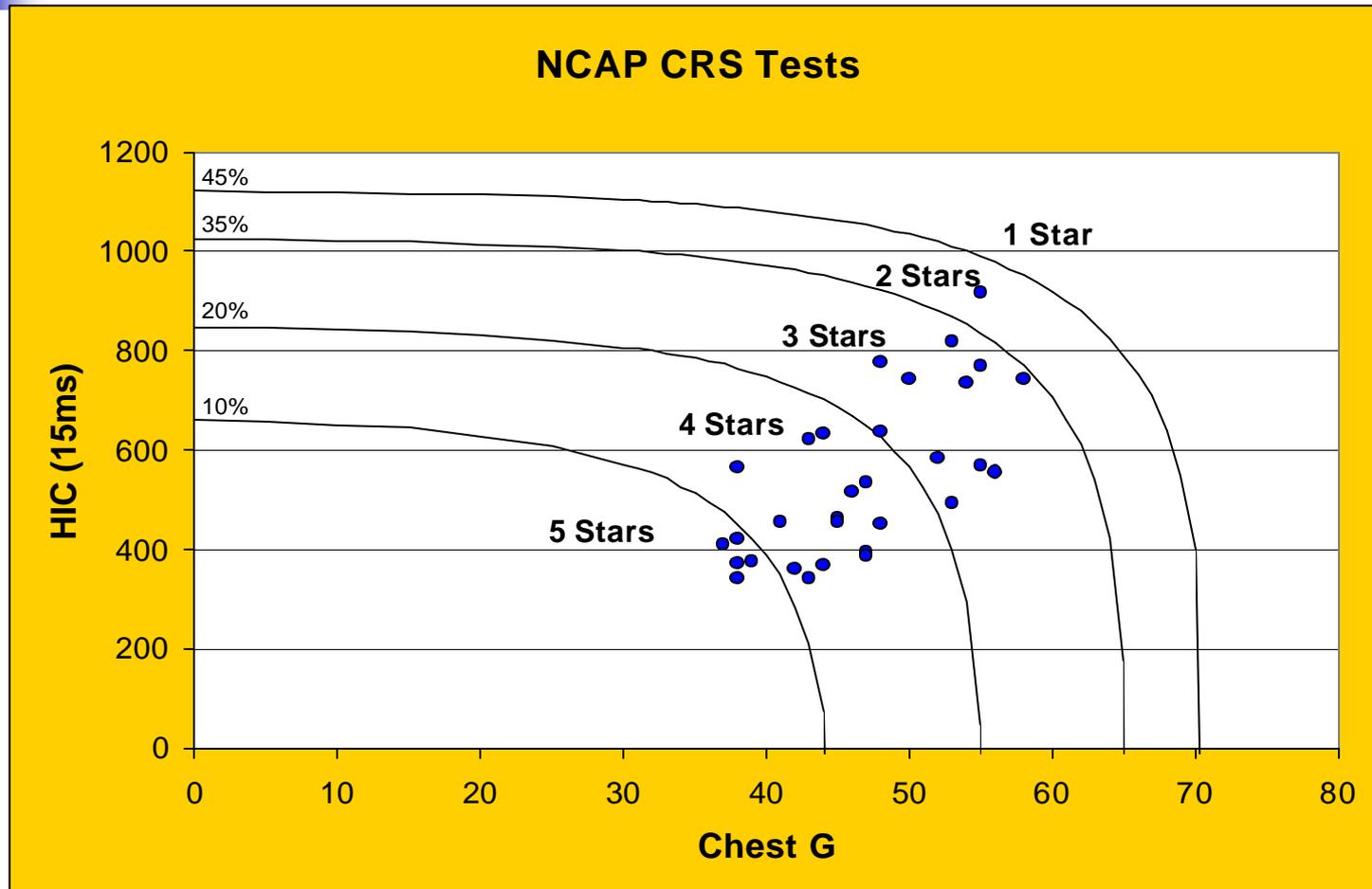
- What we showed:
 - The 9 sled tests at 35 mph showed similar clustering (spread) of data as those at 30 mph.
 - All CRSs still pass the 208 head and chest injury criterion.
 - NCAP 5-star rating system scaled for the 3-year-old dummy. Based on these nine tests, we believe most CRSs would still receive 5 stars, but a few would receive 4 stars, indicating a slight increase in risk of serious injury as the speed is increased from 30 mph to 35 mph

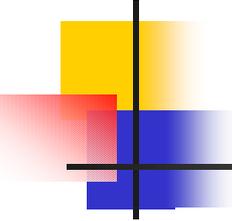


In-Vehicle Testing of Child Restraints

- Data examined:
 - Results of in-vehicle testing of child restraints
 - Six different five-point harness, forward-facing CRSs were placed into the rear seat of 20 MY 2001 vehicles.
 - We tested thirty-four child seats.
 - Tests were performed at 35 mph using the Hybrid-III dummy to assess injury.
 - A top tether was used to restrain all child restraints whether secured w/ lap/shoulder belt or LATCH.

In-Vehicle Testing Using Hybrid III with Scaled NCAP Curves

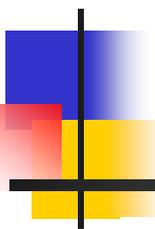


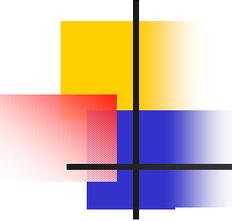


In-Vehicle Testing of Child Restraints Cont.

- What we showed:
 - The 20 CRS in-vehicle tests at 35 mph produced much more scattered data than the sled tests conducted at 30 mph or 35 mph.
 - *In the vehicle crashes, not all CRSs pass the 208 injury criteria.*
 - NCAP 5-star rating system scaled for the 3-year-old dummy. *Vehicles* displayed a CRS performance ranging from 5 stars to 2 stars.

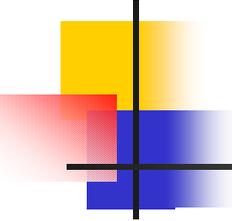
Review of Comments to the Notice for Dynamic CRS Safety Rating





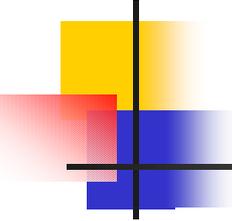
Generally Support 30 mph Sled Testing

- Half of the responses were in favor of having rating system based on upgraded FMVSS No. 213. — *Evenflo, Ford, GM, Honda, AAM, CU, National Safe Kids Campaign, JPMA, Advocates for Highway and Auto Safety*
- Suggested Upgrade included: new bench, realistic sled pulse, H-III child dummy



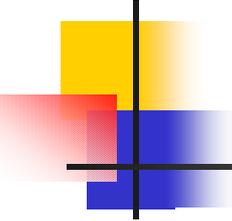
Support 35 mph Sled Test

- Rating for 35 mph sled testing should be done with dummies and bench of the revised 213. - *DJG, Honda, CU*



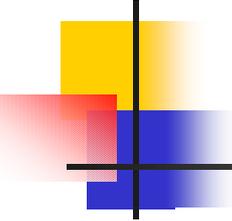
Opposed to 35 mph Sled Test

- Responses not favoring high speed sled tests - *Evenflo, Children's Hospital of Philadelphia, IIHS, AAM, National Safe Kids Campaign, Toyota*
- Current 213 is already severe test. 5 mph faster will not provide additional information. Majority of real-world crashes occur at much less than 35 mph.- *Evenflo, JPMA, Children's Hospital of Philadelphia, AAM*



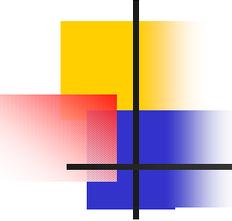
Support NCAP Test

- Few suggested to do vehicle child protection rating - *Evenflo, Advocates for Highway and Auto Safety*



Voiced Strong Opinions to NCAP Vehicle Testing

- No response favored rating CRS based on vehicle testing
- CRS performance is strongly influenced by vehicle, and one CRS can't be compared to CRS in another vehicle- *Evenflo, Safe Ride News Publication, JPMA, Children's Hospital of Philadelphia, IIHS, AAM, CU, National Safe Kids Campaign*
- With all the different vehicle and CRS models, it is not feasible to test every vehicle/CRS combination- *DJG, NADA*
- TREAD 14 (g) stated to evaluate CRS, not vehicle - *GM, IIHS, Honda, AAM, JPMA*



Status

- The agency is studying dynamic performance of rear-facing CRS performance in dynamic sled and in-vehicle testing.
- Final Notice is expected to be published by November 1, 2002.